What is claimed is:

1. A method of routing a packet in a routing device having a main processor that includes a main cache table and an instant cache table, said instant cache table storing a recent address and a recent interface associated with the most recent packet transmission process made by said routing device, the method comprising the steps of:

(a) receiving a packet that includes its destination address;

(b) checking whether said destination address belongs to said routing device;

(c) checking whether said destination address is identical to said recent address if said destination address does not belong to said routing device; and

(d) transmitting said packet to said recent interface if said destination address is identical to said recent address.

2. The method of claim 1, further comprising the steps of:

(e) calculating a Hashing Key value (N) of said destination address if it is determined from the step (c) that said destination address is not identical to said recent address;

(f) checking whether said destination address is identical to an Nth cache address stored in said main cache table; and

(g) transmitting said packet to a first interface corresponding to said Nth cache address if said destination address is identical to said Nth cache address.

3. The method of claim 2, further comprising the step of (h) resetting said recent address and recent interface stored in said instant cache table to said Nth cache address and said first interface, respectively.

4. The method of claim 1, further comprising the step of sending said packet to a protocol layer included in said routing device if it is determined from the step (b) that said destination address belongs to said routing device, said protocol layer being coupled to a routing table.

5. The method of claim 4, further comprising the step of sending said packet to a top application module included in said routing device.

6. The method of claim 4, further comprising the step of transmitting said packet to a first interface corresponding to said destination address.

7. The method of claim 6, wherein said first interface corresponding to said destination address is found by searching said routing table.

8. The method of claim 2, further comprising the step of sending said packet to a protocol layer included in said routing device if it is determined from the step (f) that said destination address is not identical to said Nth cache address, said protocol layer being coupled to a routing table.

9. The method of claim 8, further comprising the step of sending said packet to a top application module included in said routing device.

10. The method of claim 8, further comprising the step of transmitting said packet to a second interface corresponding to said destination address.

11. The method of claim 10, wherein said second interface corresponding to said destination address is found by searching said routing table.

12. The method of claim 10, further comprising the steps of:

storing said destination address and said second interface in said main cache table; and

resetting said recent address and recent interface stored in said instant cache table to said destination address and said second interface.

13. The method of claim 2, wherein said Hashing Key value is determined by

$$K = (N1 + N2 + N3 + N4)/T ,$$

where

K represents said Hashing Key value,

T represents the size of said main cache table, and

N1 to N4 represent the first, second, third, and fourth byte data of said destination address, respectively.

14. A method of routing a packet in a routing device having a main processor that includes a main cache table and an instant

cache table, said instant cache table storing a recent IP address and a recent IP interface associated with the most recent packet transmission process made by said routing device, the method comprising the steps of:

(a) receiving a packet that includes its destination IP address;

(b) checking whether said destination IP address belongs to said routing device;

(c) checking whether said destination IP address is identical to said recent IP address if said destination IP address does not belong to said routing device; and

(d) transmitting said packet to said recent IP interface if said destination IP address is identical to said recent IP address.

15. The method of claim 14, further comprising the steps of:

(e) calculating a Hashing Key value (N) of said destination IP address if it is determined from the step (c) that said destination IP address is not identical to said recent IP address;

(f) checking whether said destination IP address is identical to an Nth cache IP address stored in said main cache table; and

(g) transmitting said packet to a first IP interface corresponding to said Nth cache IP address if said destination IP address is identical to said Nth cache IP address.

16. The method of claim 15, further comprising the step of (h) resetting said recent IP address and recent IP interface stored in said instant cache table to said Nth cache IP address and said first IP interface, respectively.

17. The method of claim 14, further comprising the step of sending said packet to an IP layer included in said routing device if it is determined from the step (b) that said destination IP address belongs to said routing device, said IP layer being coupled to an IP routing table.

18. The method of claim 17, further comprising the step of transmitting said packet to first IP interface corresponding to said destination IP address, said first IP interface being found by searching said IP routing table.

19. The method of claim 15, further comprising the step of sending said packet to an IP layer included in said routing device if it is determined from the step (f) that said

destination IP address is not identical to said Nth cache IP address, said IP layer being coupled to an IP routing table.

20. The method of claim 19, further comprising the step of transmitting said packet to a second IP interface corresponding to said destination IP address, said second IP interface being found by searching said IP routing table.

21. The method of claim 20, further comprising the steps of:

storing said destination IP address and said second IP interface in said main cache table; and

resetting said recent IP address and recent IP interface stored in said instant cache table to said destination IP address and said second IP interface.